

Work Order ID 66966 - 2

Thursday, March 03, 2011 8:58:49 AM

Page 1

Item ID: D6101-005

Revision ID:

Item Name: Saddle Billet

Start Date: 3/3/2011 Start Qty: 30.00

Required Date: 3/16/2011 Req'd Qty: 30.00

Reference:

Approvals: Process Plan: CL Date: 11/03/03 Tooling:

QC: Date: SPC (Y/N):

Cust Item ID:

Customer:

Run Start

Stop

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
|----------|--------------|

|       |       |
|-------|-------|
| D6101 | Rev B |
|-------|-------|

|     |  |      |
|-----|--|------|
| 100 |  | 0.00 |
|-----|--|------|



Purchasing

PURCHASING

Memo

0.00

Issue P/O: 13604

a) Description: Alluminum billet

b) 5.00" x 8.250" x 2.50" thick

c) Tolerance on all dimensions are +0.030"/-0.000"

d) Grain direction along 5.00" length

e) Material: 7075-T7351 (QQ-A-250/12)

f) Material certification required

|     |  |      |
|-----|--|------|
| 110 |  | 0.00 |
|-----|--|------|



Packaging

Receive & Inspect for Damage & Mat'l Certs

Memo

0.00

Ensure material certification is attached

Packaging

CL 11/03/03 (30)

CL 3/3/11 (20)  
CL 3/18/10

**Abstract**

Thursday, March 03, 2011 8:58:49 AM

**Accept**

**Setup Start**

**Stop**



**Start Date:** 3/3/2011      **Start Qty:** 30.00

**Cust Item ID:**

**Required Date: 3/16/2011      Req'd Qty: 30.00**

**Customer:**

**Reference:**

Run Start



**Approvals:** \_\_\_\_\_ **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Stop**

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

| Sequence ID/<br>Work Center ID | Operation<br>Description                                  | Set Up/<br>Run Hours | Tool ID | Tool #   | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---|----------------------|---------|----------|--------------|---------------|---------------|------------------|----------------|
| 120<br>                        | QC6- Inspect dimensions to drawing                        | 0.00                 |         |          |              |               |               |                  |                |
| QC<br>Quality Control          | Memo<br>Ensure Material certification comply to Dwg D6101 | 0.00                 | JL      | 11/03/21 |              | (10)          |               |                  |                |
| 130<br>                        | Identify as per dwg & Stock Location: MATHS               | 0.00                 | JL      | 11/03/21 |              | (10)          |               |                  |                |
| Packaging<br>Packaging         | Memo  | 0.00                 |         |          |              |               |               |                  |                |
| 140<br>                        | QC21- Final Inspection - Work Order Release               | 0.00                 |         |          |              |               |               | 11/03/22         | JA             |
| QC<br>Quality Control          | Memo  | 0.00                 |         |          |              |               |               | CY 11/03/22      |                |

# Picklist Print

Thursday, March 03, 2011 8:58:45 AM

Page 1

Work Order ID: 66966



Parent Item: D6101-005



Parent Item Name: Saddle Billet



Start Date: 3/3/2011

Required Date: 3/16/2011

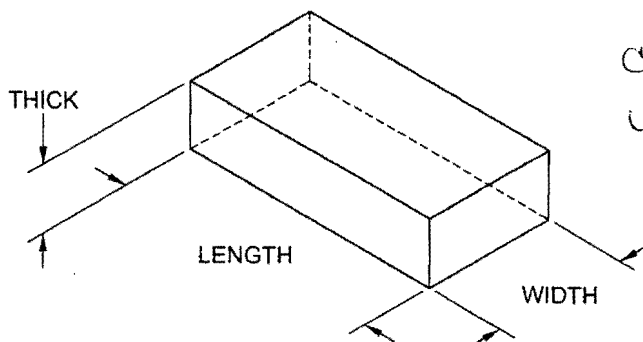
Start Qty: ~~30.00~~ / 0

Required Qty: 30.00

Comments: IPP A: 001.05.04 New Issue IEC

| Component Item ID/<br>Item Name   | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit  | Total<br>Qty | Qty<br>Issued | Date<br>Issued         | Status |
|---|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|--|--------------|---------------|------------------------|--------|
| D6101-005P<br><br>7075-T7351 8.25X5.0X2.5 |                        | Purchased     | No          |                     |                  | 110             | Each               | 0.0000         | 1<br> | 30           |               | <i>Rec'd 3/12 (10)</i> |        |

# SPECIFICATION CONTROL DRAWING



CL 11103403  
W/O: 669666

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

**B** ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

| Part No.  | Alloy                    | Length | Width | Thick | Grain Direction    |
|-----------|--------------------------|--------|-------|-------|--------------------|
| D6101-001 | 7075-T7351 (QQ-A-250/12) | 6.000  | 6.250 | 2.000 | Along 6.000 Length |
| D6101-003 | 7075-T7351 (QQ-A-250/12) | 7.875  | 6.250 | 2.000 | Along 7.875 Length |
| D6101-005 | 7075-T7351 (QQ-A-250/12) | 5.000  | 8.250 | 2.500 | Along 5.000 Length |
| D6101-007 | 7075-T7351 (QQ-A-250/12) | 7.750  | 8.250 | 2.500 | Along 7.750 Length |
| D6101-009 | 7075-T7351 (QQ-A-250/12) | 8.700  | 8.250 | 2.500 | Along 8.700 Length |
| D6101-011 | 7075-T7351 (QQ-A-250/12) | 9.700  | 8.250 | 2.500 | Along 9.700 Length |
| D6101-013 | 7075-T7351 (QQ-A-250/12) | 10.100 | 8.250 | 2.500 | Along 10.10 Length |
| D6101-015 | 7075-T7351 (QQ-A-250/12) | 9.450  | 6.250 | 2.500 | Along 9.450 Length |
| D6101-017 | 7075-T7351 (QQ-A-250/12) | 6.350  | 6.250 | 2.250 | Along 6.350 Length |
|           |                          |        |       |       |                    |
|           |                          |        |       |       |                    |

**RELEASED**  
09/07/15/W

|            |                                     |  |          |
|------------|-------------------------------------|--|----------|
| B          | ADDED D6101-015/-017, ADD ASTM B209 | RF   | 09.04.23 |
| A          | NEW ISSUE                           | CP   | 01.03.30 |
| REV.       | DESCRIPTION                         | BY   | DATE     |
| DESIGN     | CP                                  | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA   |          |
| DRAWN      | RF                                  |  |          |
| CHECKED    |                                     | DRAWING NO. REV. B   |          |
| MFG. APPR. |                                     | D6101 SHEET 1 OF 1   |          |
| APPROVED   |                                     | TITLE SCALE  |          |
| DE APPR.   |                                     | SADDLE BILLET, 7075 NTS  |          |
| DATE       | 09.04.23                            | <small>COPYRIGHT © 2001 BY DART AEROSPACE LTD<br/>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small> |          |

**Castle Metals®**

A. M. Castle &amp; Co.

**BORDEREAU DE MARCHANDISES**

Page 1 of 2

No de Formulaire d'Emballage / Shipment No:730473

|   |               |   |  |   |  |  |  |
|---|---------------|---|--|---|--|--|--|
| <b>Expédié de / Ship From:</b>  |               | <b>Vendu à / Sold To:</b>                                     |  | <b>Expédié à / Ship To:</b>   |  | <b>Livré à / Deliver To:</b>   |  |
| Castle Metals<br>MONTREAL<br>835-SELKIRK AVENUE<br>POINTE CLAIRE, QUEBEC<br>H9R 3S2 |               | DART AEROSPACE LTD<br>1270 ABERDEEN<br>HAWKESBURY, ON K6A 1K7 |  | WILL CALL-MONTREAL<br>835 SELKIRK AVENUE<br>POINTE CLAIRE, QC H9R 3S2 |  | WILL CALL-MONTREAL<br>835 SELKIRK AVENUE<br>POINTE CLAIRE, QC<br>H9R 3S2<br>CA |  |
| <b>Date d'expédition / Date Shipped</b>   | <b>F.O.B.</b> | <b>Modalités de transport / Freight Terms</b>                 |  | <b>Transporteur / Carrier</b>   |  | <b>N° du Bon de connaissance / BOL No</b>                                      |  |
| 17-MAR-11   | ORIGIN        | Prepaid   |  | MANITOULIN  |  | 730473-2   |  |

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| <b>Détails d'expédition / Shipment Details</b> | <b>Destination finale / Final Destination Branch - MON</b> |
|--|--|

|  |                                 |                        |  |                               |
|--|---------------------------------|------------------------|--|-------------------------------|
| N° de commande /<br>Order No                 | N° de ligne<br>Line No          | N° d'article / Item No | Description  |                               |
| 1321513                                      | 2                               | 752241.MO              | 2.5000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000<br>CUT 2SIDED TO 8.25 IN ( + .0310/- .0000 IN (GRAIN TO RUN<br>ALONG 5")) X 5.12 IN ( + .0310/- .0000 IN (GRAIN TO RUN ALONG 5"))<br>- ALUMINUM PLATE SAW SPECIFICATIONS: QQ-A-250/12 |                               |
| N° de bon de commande /<br>Purchase Order No | Nbre de pièces /<br>Part Number |                        | Qté commandée / Ordered Qty  | Qté Facturée /<br>Invoice Qty |
| 13604  | YOUR ITEM NUMBER:<br>D6101-005  |                        | 10 PCS   | 10 PCS                        |

|  |                     |   |                           |                           |                                     |                                       |   |
|--|---------------------|---|---------------------------|---------------------------|-------------------------------------|---------------------------------------|---|
| <b>Détails / Details</b>                           |                     | <b>SHIP AS SOON AS REC'D</b>                  |                           |                           |                                     |                                       |   |
| <b>N° de livraison / Delivery No :</b><br>72750309 | <b>Usine / Mill</b> | <b>No de coulée / Heat Number</b><br>485646A4 | <b>Code méc / Mech Id</b> | <b>Pièces / PCS</b><br>10 | <b>Largeur (Pouce) / Width (IN)</b> | <b>Longueur (Pouce) / Length (IN)</b> | <b>Qté expédiée / Shipped Qty (LBS)</b><br>106.66 |

Ces marchandises/technologies sont sujettes aux règlements de l'Export Administration et du département d'état des Etats-Unis. Si elles ont été/sont exportées, elles doivent se conformer à ces règlements. Toute modification du contrat de transport contraire aux lois des Etats-Unis est interdite.

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle & Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

## SHIP TO:

CASTLE % CASTLE AEROSPACE  
3050 SOUTH HYDRAULIC  
WICHITA, KS 67218

# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

**CERTIFIED TEST REPORT**

## SOLD TO:

CAS AERO%AM CASTLE METALS  
ATTN: BOB OHR %ACCTS PAYABLES  
3400 NORTH WOLF ROAD  
FRANKLIN PARK, IL 60131

Serial Number

4172642

|                              |  |                          |                           |   |                |                     |                               |                                     |                        |                       |
|------------------------------|--|--------------------------|---------------------------|---|----------------|---------------------|-------------------------------|-------------------------------------|------------------------|-----------------------|
| CUSTOMER PO NUMBER:<br>15132 |  | WORK PACKAGE:            |                           | CUSTOMER PART NUMBER:<br>6879 AMC A97075-60 |                |                     | SHIP RUN/LOAD ID:<br>101638/5 |                                     | GOV'T CONTRACT NUMBER: |                       |
| KAISER ORDER NO:<br>1087324  |  | LINE ITEM:<br>1          | SHIP DATE:<br>29-SEP-2009 |   | ALLOY:<br>7075 | CLAD:<br>BARE       | TEMPER:<br>T7351              | PRODUCT DESCRIPTION:<br>Sawed Plate |                        |                       |
| WEIGHT SHIPPED:<br>44928 LB  |  | QUANTITY:<br>25 PCS EST. |                           | B/L NUMBER:<br>2024216                      |                | GAUGE:<br>2.5000 IN |                               | DIAMETER/WIDTH:<br>48.500 IN        |                        | LENGTH:<br>144.500 IN |

**Certified Specifications**

AMS 4078/RevG  
ASTM B 209/Rev07  
BSS 7055/RevA  
DPS 4.713/RevAH  
GSS16100/RevG/Amd1

AMS-QQ-A-250/12  
ASTM B 594/Rev06  
CMMP 025/RevS  
EAC MS1011/RevE  
MMS 159/RevN

AMS-STD-2154  
BAC 5439/RevH  
CSTI 006/RevC  
GAMPS 9101/RevB  
PS 21211/RevK

Test Code: 4297

**Test Results**

Lot: 479610A8 Cast 268

Drop 21

Ingot 2

(ASTM E8/B557)

(EN 2002-1)

| Tensile: | Temper | Dir / # Tests    | Ultimate KSI (MPA)         | Yield KSI (MPA)            | Elongation % |
|----------|--------|------------------|----------------------------|----------------------------|--------------|
|          | T7351  | LT / 2 (Min:Max) | 70.7 : 71.3<br>(487 : 492) | 59.1 : 59.5<br>(407 : 410) | 11.2 : 11.6  |

(ASTM E1004)

(EN 2004-1)

|                      |          |          |
|----------------------|----------|----------|
| Conductivity %IACS : | 41.6 Min | 42.0 Max |
| (MS/M) :             | 24.1 Min | 24.4 Max |

(ASTM E1251)

| Chemistry: | SI   | FE   | CU  | MN   | MG  | CR   | ZN  | TI   | V    | ZR   | OTHER    |
|------------|------|------|-----|------|-----|------|-----|------|------|------|----------|
| Actual     | 0.09 | 0.18 | 1.6 | 0.03 | 2.4 | 0.20 | 5.8 | 0.04 | 0.01 | 0.01 | TOT 0.05 |



Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number  
4172642

### TEST NOTES

7075-T7351 plate 3.501-4.000" thick, if  
ultrasonically inspected, meets requirements of CMMPO25 per  
SDR CMMPO25-KaiserT-3. 7075-T7351 plate 4.001-5.000" thick,  
if ultrasonically inspected, meets requirements of CMMPO25  
per  
SDR CMMPO25-KaiserT-2.

Metal represented by this test report was immersion  
ultrasonically tested from one side and meets the Class A  
and Class B requirements of all specifications referenced  
on this test report.

### CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE UNITED STATES OF AMERICA OR A QUALIFYING COUNTRY PER DFARS 225.872-1(a), WAS MANUFACTURED IN THE UNITED STATES OF AMERICA, AND MEETS THE REQUIREMENTS OF DFARS 252.225 FOR DOMESTIC CONTENT. THIS MATERIAL HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTIRE ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED.

**BILL POYNOR, LABORATORIES SUPERVISOR**